



SEQUENCE LISTING

<110> Estell, David
Harding, Fiona

<120> PROTEINS PRODUCING AN ALTERED IMMUNOGENIC RESPONSE AND
METHODS OF MAKING AND USING THE SAME

<130> GC527C3

<140> US 09/768,080

<141> 2001-01-23

<150> US 09/677,822

<151> 2000-10-02

<150> US 09/500,135

<151> 2000-02-08

<150> US 09/060,872

<151> 1998-04-15

<160> 240

<170> PatentIn Ver. 2.1

<210> 1

<211> 1495

<212> DNA

<213> Bacillus amyloliquefaciens

<220>

<221> mat_peptide

<222> (417)..(1495)

<220>

<221> CDS

<222> (96)..(1244)

<220>

<221> misc_feature

<222> (582)..(584)

<223> The nnn at positions 582 through 584 which in a
preferred embodiment (aat) is to code for
asparagine, but which may also code for proline.

<220>

<221> misc_feature

<222> (585)..(587)

<223> The nnn at positions 585 through 587 which in a
preferred embodiment (cct) is to code for proline,
but which may also code for asparagine.

<220>

<221> misc_feature

<222> (597)..(599)

<223> The nnn at positions 597 to 599 which in a

preferred embodiment (aac) is to code for asparagine, but which may also code for aspartic acid.

<220>

<221> misc_feature

<222> (678)..(680)

<223> The nnn at positions 678 through 680 which in a preferred embodiment (gca) is to code for alanine, but which may also code for serine.

<220>

<221> misc_feature

<222> (681)..(683)

<223> The nnn at positions 681 through 683 which in a preferred embodiment (tca) is to code for serine, but which may also code for alanine.

<220>

<221> misc_feature

<222> (708)..(710)

<223> The nnn at positions 708 through 710 which in a preferred embodiment (gct) is to code for alanine, but which may also code for aspartic acid.

<220>

<221> misc_feature

<222> (711)..(713)

<223> The nnn at positions 711 through 713 which in a preferred embodiment (gac) is to code for aspartic acid, but which may also code for alanine.

<220>

<221> misc_feature

<222> (888)..(890)

<223> The nnn at positions 888 through 890 which in a preferred embodiment (act) is to code for threonine, but which may also code for serine.

<220>

<221> misc_feature

<222> (891)..(893)

<223> The nnn at positions 891 through 893 which in a preferred embodiment (tcc) is to code for serine, but which may also code for threonine.

<220>

<221> misc_feature

<222> (1167)..(1169)

<223> The nnn at positions 1167 through 1169 which in a preferred embodiment (gaa) is to code for glutamic acid, but which may also code for glutamine.

<400> 1

gggtactactaa aatattatttc catactatac aattaatata cagaataatc tgtctattgg 60

ttattctgca aatgaaaaaa aggagaggat aaaga atg aga ggc aaa aaa gta 113
Met Arg Gly Lys Lys Val

tgg atc agt ttg ctg ttt gct tta gcg tta atc ttt acg atg gcg ttc	161
Trp Ile Ser Leu Leu Phe Ala Leu Ala Leu Ile Phe Thr Met Ala Phe	
-100 -95 -90	
ggc agc aca tcc tct gcc cag gcg gca ggg aaa tca aac ggg gaa aag	209
Gly Ser Thr Ser Ser Ala Gln Ala Ala Gly Lys Ser Asn Gly Glu Lys	
-85 -80 -75 -70	
aaa tat att gtc ggg ttt aaa cag aca atg agc acg atg agc gcc gct	257
Lys Tyr Ile Val Gly Phe Lys Gln Thr Met Ser Thr Met Ser Ala Ala	
-65 -60 -55	
aag aag aaa gat gtc att tct gaa aaa ggc ggg aaa gtg caa aag caa	305
Lys Lys Lys Asp Val Ile Ser Glu Lys Gly Gly Lys Val Gln Lys Gln	
-50 -45 -40	
ttc aaa tat gta gac gca gct tca gct aca tta aac gaa aaa gct gta	353
Phe Lys Tyr Val Asp Ala Ala Ser Ala Thr Leu Asn Glu Lys Ala Val	
-35 -30 -25	
aaa gaa ttg aaa aaa gac ccg agc gtc gct tac gtt gaa gaa gat cac	401
Lys Glu Leu Lys Lys Asp Pro Ser Val Ala Tyr Val Glu Glu Asp His	
-20 -15 -10	
gta gca cat gcg tac gcg cag tcc gtg cct tac ggc gta tca caa att	449
Val Ala His Ala Tyr Ala Gln Ser Val Pro Tyr Gly Val Ser Gln Ile	
-5 -1 1 5 10	
aaa gcc cct gct ctg cac tct caa ggc tac act gga tca aat gtt aaa	497
Lys Ala Pro Ala Leu His Ser Gln Gly Tyr Thr Gly Ser Asn Val Lys	
15 20 25	
gta gcg gtt atc gac agc ggt atc gat tct tct cat cct gat tta aag	545
Val Ala Val Ile Asp Ser Gly Ile Asp Ser Ser His Pro Asp Leu Lys	
30 35 40	
gta gca ggc gga gcc agc atg gtt cct tct gaa aca nnn nnn ttc caa	593
Val Ala Gly Gly Ala Ser Met Val Pro Ser Glu Thr Xaa Xaa Phe Gln	
45 50 55	
gac nnn aac tct cac gga act cac gtt gcc ggc aca gtt gcg gct ctt	641
Asp Xaa Asn Ser His Gly Thr His Val Ala Gly Thr Val Ala Ala Leu	
60 65 70 75	
aat aac tca atc ggt gta tta ggc gtt gcg cca agc nnn nnn ctt tac	689
Asn Asn Ser Ile Gly Val Leu Gly Val Ala Pro Ser Xaa Xaa Leu Tyr	
80 85 90	
gct gta aaa gtt ctc ggt nnn nnn ggt tcc ggc caa tac agc tgg atc	737
Ala Val Lys Val Leu Gly Xaa Xaa Gly Ser Gly Gln Tyr Ser Trp Ile	
95 100 105	
att aac gga atc gag tgg gcg atc gca aac aat atg gac gtt att aac	785
Ile Asn Gly Ile Glu Trp Ala Ile Ala Asn Asn Met Asp Val Ile Asn	
110 115 120	

atg agc ctc ggc gga cct tct ggt tct gct gct tta aaa gcg gca gtt	833
Met Ser Leu Gly Gly Pro Ser Gly Ser Ala Ala Leu Lys Ala Ala Val	
125 130 135	
gat aaa gcc gtt gca tcc ggc gtc gta gtc gtt gcg gca gcc ggt aac	881
Asp Lys Ala Val Ala Ser Gly Val Val Val Val Ala Ala Ala Gly Asn	
140 145 150 155	
gaa ggc nnn nnn ggc agc tca agc aca gtg ggc tac cct ggt aaa tac	929
Glu Gly Xaa Xaa Gly Ser Ser Ser Thr Val Gly Tyr Pro Gly Lys Tyr	
160 165 170	
cct tct gtc att gca gta ggc gct gtt gac agc agc aac caa aga gca	977
Pro Ser Val Ile Ala Val Gly Ala Val Asp Ser Ser Asn Gln Arg Ala	
175 180 185	
tct ttc tca agc gta gga cct gag ctt gat gtc atg gca cct ggc gta	1025
Ser Phe Ser Ser Val Gly Pro Glu Leu Asp Val Met Ala Pro Gly Val	
190 195 200	
tct atc caa agc acg ctt cct gga aac aaa tac ggg gcg tac aac ggt	1073
Ser Ile Gln Ser Thr Leu Pro Gly Asn Lys Tyr Gly Ala Tyr Asn Gly	
205 210 215	
acg tca atg gca tct ccg cac gtt gcc gga gcg gct gct ttg att ctt	1121
Thr Ser Met Ala Ser Pro His Val Ala Gly Ala Ala Ala Leu Ile Leu	
220 225 230 235	
tct aag cac ccg aac tgg aca aac act caa gtc cgc agc agt tta nnn	1169
Ser Lys His Pro Asn Trp Thr Asn Thr Gln Val Arg Ser Ser Leu Xaa	
240 245 250	
aac acc act aca aaa ctt ggt gat tct ttc tac tat gga aaa ggg ctg	1217
Asn Thr Thr Thr Lys Leu Gly Asp Ser Phe Tyr Tyr Gly Lys Gly Leu	
255 260 265	
atc aac gta cag gcg gca gct cag taa aacataaaaa accggccttg	1264
Ile Asn Val Gln Ala Ala Ala Gln	
270 275	
gccccgcgcg ttttttttatt tttcttctc cgcattgttca atccgctcca taatcgacgg	1324
atggctccct ctgaaaattt taacgagaaa cggcggttg acccggtcca gtcccgtaac	1384
ggccaagtcc tgaaacgtct caatcgccgc ttcccggttt ccggtcagct caatgccgta	1444
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<210> 2
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 <213> Bacillus amyloliquefaciens

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 <221> VARIANT

<222> (163)...(163)
 <223> Xaa = Asn or Pro

<220>
 <221> VARIANT
 <222> (164)...(164)
 <223> Xaa = Pro or Asn

<220>
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 <223> Xaa = Asn or Asp

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 <222> (195)...(195)
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 <223> Xaa = Ser or Thr

<220>
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 <222> (358)...(358)
 <223> Xaa = Gln or Glu

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 Met Arg Gly Lys Lys Val Trp Ile Ser Leu Leu Phe Ala Leu Ala Leu
 1 5 10 15
 Ile Phe Thr Met Ala Phe Gly Ser Thr Ser Ser Ala Gln Ala Ala Gly
 20 25 30
 Lys Ser Asn Gly Glu Lys Lys Tyr Ile Val Gly Phe Lys Gln Thr Met
 35 40 45
 Ser Thr Met Ser Ala Ala Lys Lys Lys Asp Val Ile Ser Glu Lys Gly
 50 55 60

Gly	Lys	Val	Gln	Lys	Gln	Phe	Lys	Tyr	Val	Asp	Ala	Ala	Ser	Ala	Thr
65					70					75					80
Leu	Asn	Glu	Lys	Ala	Val	Lys	Glu	Leu	Lys	Lys	Asp	Pro	Ser	Val	Ala
				85					90					95	
Tyr	Val	Glu	Glu	Asp	His	Val	Ala	His	Ala	Tyr	Ala	Gln	Ser	Val	Pro
		100						105					110		
Tyr	Gly	Val	Ser	Gln	Ile	Lys	Ala	Pro	Ala	Leu	His	Ser	Gln	Gly	Tyr
	115						120					125			
Thr	Gly	Ser	Asn	Val	Lys	Val	Ala	Val	Ile	Asp	Ser	Gly	Ile	Asp	Ser
	130					135					140				
Ser	His	Pro	Asp	Leu	Lys	Val	Ala	Gly	Gly	Ala	Ser	Met	Val	Pro	Ser
145				150						155				160	
Glu	Thr	Xaa	Xaa	Phe	Gln	Asp	Xaa	Asn	Ser	His	Gly	Thr	His	Val	Ala
				165					170					175	
Gly	Thr	Val	Ala	Ala	Leu	Asn	Asn	Ser	Ile	Gly	Val	Leu	Gly	Val	Ala
		180						185					190		
Pro	Ser	Xaa	Xaa	Leu	Tyr	Ala	Val	Lys	Val	Leu	Gly	Xaa	Xaa	Gly	Ser
	195					200						205			
Gly	Gln	Tyr	Ser	Trp	Ile	Ile	Asn	Gly	Ile	Glu	Trp	Ala	Ile	Ala	Asn
	210				215						220				
Asn	Met	Asp	Val	Ile	Asn	Met	Ser	Leu	Gly	Gly	Pro	Ser	Gly	Ser	Ala
225				230						235					240
Ala	Leu	Lys	Ala	Ala	Val	Asp	Lys	Ala	Val	Ala	Ser	Gly	Val	Val	Val
				245					250					255	
Val	Ala	Ala	Ala	Gly	Asn	Glu	Gly	Xaa	Xaa	Gly	Ser	Ser	Ser	Thr	Val
		260						265					270		
Gly	Tyr	Pro	Gly	Lys	Tyr	Pro	Ser	Val	Ile	Ala	Val	Gly	Ala	Val	Asp
		275					280					285			
Ser	Ser	Asn	Gln	Arg	Ala	Ser	Phe	Ser	Ser	Val	Gly	Pro	Glu	Leu	Asp
	290					295					300				
Val	Met	Ala	Pro	Gly	Val	Ser	Ile	Gln	Ser	Thr	Leu	Pro	Gly	Asn	Lys
305				310						315					320
Tyr	Gly	Ala	Tyr	Asn	Gly	Thr	Ser	Met	Ala	Ser	Pro	His	Val	Ala	Gly
				325					330					335	
Ala	Ala	Ala	Leu	Ile	Leu	Ser	Lys	His	Pro	Asn	Trp	Thr	Asn	Thr	Gln
			340					345					350		
Val	Arg	Ser	Ser	Leu	Xaa	Asn	Thr	Thr	Thr	Lys	Leu	Gly	Asp	Ser	Phe
		355					360					365			
Tyr	Tyr	Gly	Lys	Gly	Leu	Ile	Asn	Val	Gln	Ala	Ala	Ala	Gln		
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<211> 275

<212> PRT

<213> Bacillus amyloliquefaciens

<400> 3

Ala	Gln	Ser	Val	Pro	Tyr	Gly	Val	Ser	Gln	Ile	Lys	Ala	Pro	Ala	Leu
1				5					10					15	

His	Ser	Gln	Gly	Tyr	Thr	Gly	Ser	Asn	Val	Lys	Val	Ala	Val	Ile	Asp
		20						25					30		

Ser	Gly	Ile	Asp	Ser	Ser	His	Pro	Asp	Leu	Lys	Val	Ala	Gly	Gly	Ala
	35						40						45		

Ser Met Val Pro Ser Glu Thr Asn Pro Phe Gln Asp Asn Asn Ser His
 50 55 60
 Gly Thr His Val Ala Gly Thr Val Ala Ala Leu Asn Asn Ser Ile Gly
 65 70 75 80
 Val Leu Gly Val Ala Pro Ser Ala Ser Leu Tyr Ala Val Lys Val Leu
 85 90 95
 Gly Ala Asp Gly Ser Gly Gln Tyr Ser Trp Ile Ile Asn Gly Ile Glu
 100 105 110
 Trp Ala Ile Ala Asn Asn Met Asp Val Ile Asn Met Ser Leu Gly Gly
 115 120 125
 Pro Ser Gly Ser Ala Ala Leu Lys Ala Ala Val Asp Lys Ala Val Ala
 130 135 140
 Ser Gly Val Val Val Val Ala Ala Ala Gly Asn Glu Gly Thr Ser Gly
 145 150 155 160
 Ser Ser Ser Thr Val Gly Tyr Pro Gly Lys Tyr Pro Ser Val Ile Ala
 165 170 175
 Val Gly Ala Val Asp Ser Ser Asn Gln Arg Ala Ser Phe Ser Ser Val
 180 185 190
 Gly Pro Glu Leu Asp Val Met Ala Pro Gly Val Ser Ile Gln Ser Thr
 195 200 205
 Leu Pro Gly Asn Lys Tyr Gly Ala Tyr Asn Gly Thr Ser Met Ala Ser
 210 215 220
 Pro His Val Ala Gly Ala Ala Ala Leu Ile Leu Ser Lys His Pro Asn
 225 230 235 240
 Trp Thr Asn Thr Gln Val Arg Ser Ser Leu Glu Asn Thr Thr Thr Lys
 245 250 255
 Leu Gly Asp Ser Phe Tyr Tyr Gly Lys Gly Leu Ile Asn Val Gln Ala
 260 265 270
 Ala Ala Gln
 275

<210> 4

<211> 275

<212> PRT

<213> Bacillus subtilis

<400> 4

Ala Gln Ser Val Pro Tyr Gly Ile Ser Gln Ile Lys Ala Pro Ala Leu
 1 5 10 15

His Ser Gln Gly Tyr Thr Gly Ser Asn Val Lys Val Ala Val Ile Asp
 20 25 30

Ser Gly Ile Asp Ser Ser His Pro Asp Leu Asn Val Arg Gly Gly Ala
 35 40 45
 Ser Phe Val Pro Ser Glu Thr Asn Pro Tyr Gln Asp Gly Ser Ser His
 50 55 60
 Gly Thr His Val Ala Gly Thr Ile Ala Ala Leu Asn Asn Ser Ile Gly
 65 70 75 80
 Val Leu Gly Val Ser Pro Ser Ala Ser Leu Tyr Ala Val Lys Val Leu
 85 90 95
 Asp Ser Thr Gly Ser Gly Gln Tyr Ser Trp Ile Ile Asn Gly Ile Glu
 100 105 110
 Trp Ala Ile Ser Asn Asn Met Asp Val Ile Asn Met Ser Leu Gly Gly
 115 120 125
 Pro Thr Gly Ser Thr Ala Leu Lys Thr Val Val Asp Lys Ala Val Ser
 130 135 140
 Ser Gly Ile Val Val Ala Ala Ala Ala Gly Asn Glu Gly Ser Ser Gly
 145 150 155 160
 Ser Thr Ser Thr Val Gly Tyr Pro Ala Lys Tyr Pro Ser Thr Ile Ala
 165 170 175
 Val Gly Ala Val Asn Ser Ser Asn Gln Arg Ala Ser Phe Ser Ser Ala
 180 185 190
 Gly Ser Glu Leu Asp Val Met Ala Pro Gly Val Ser Ile Gln Ser Thr
 195 200 205
 Leu Pro Gly Gly Thr Tyr Gly Ala Tyr Asn Gly Thr Ser Met Ala Thr
 210 215 220
 Pro His Val Ala Gly Ala Ala Ala Leu Ile Leu Ser Lys His Pro Thr
 225 230 235 240
 Trp Thr Asn Ala Gln Val Arg Asp Arg Leu Glu Ser Thr Ala Thr Tyr
 245 250 255
 Leu Gly Asn Ser Phe Tyr Tyr Gly Lys Gly Leu Ile Asn Val Gln Ala
 260 265 270
 Ala Ala Gln
 275

<210> 5

<211> 274

<212> PRT

<213> Bacillus licheniformis

<400> 5

Ala Gln Thr Val Pro Tyr Gly Ile Pro Leu Ile Lys Ala Asp Lys Val

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Gln Ala Gln Gly Phe Lys Gly Ala Asn Val Lys Val Ala Val Leu Asp	20	25	30
Thr Gly Ile Gln Ala Ser His Pro Asp Leu Asn Val Val Gly Gly Ala	35	40	45
Ser Phe Val Ala Gly Glu Ala Tyr Asn Thr Asp Gly Asn Gly His Gly	50	55	60
Thr His Val Ala Gly Thr Val Ala Ala Leu Asp Asn Thr Thr Gly Val	65	70	75
Leu Gly Val Ala Pro Ser Val Ser Leu Tyr Ala Val Lys Val Leu Asn	85	90	95
Ser Ser Gly Ser Gly Ser Tyr Ser Gly Ile Val Ser Gly Ile Glu Trp	100	105	110
Ala Thr Thr Asn Gly Met Asp Val Ile Asn Met Ser Leu Gly Gly Ala	115	120	125
Ser Gly Ser Thr Ala Met Lys Gln Ala Val Asp Asn Ala Tyr Ala Arg	130	135	140
Gly Val Val Val Val Ala Ala Ala Gly Asn Ser Gly Asn Ser Gly Ser	145	150	155
Thr Asn Thr Ile Gly Tyr Pro Ala Lys Tyr Asp Ser Val Ile Ala Val	165	170	175
Gly Ala Val Asp Ser Asn Ser Asn Arg Ala Ser Phe Ser Ser Val Gly	180	185	190
Ala Glu Leu Glu Val Met Ala Pro Gly Ala Gly Val Tyr Ser Thr Tyr	195	200	205
Pro Thr Asn Thr Tyr Ala Thr Leu Asn Gly Thr Ser Met Ala Ser Pro	210	215	220
His Val Ala Gly Ala Ala Ala Leu Ile Leu Ser Lys His Pro Asn Leu	225	230	235
Ser Ala Ser Gln Val Arg Asn Arg Leu Ser Ser Thr Ala Thr Tyr Leu	245	250	255
Gly Ser Ser Phe Tyr Tyr Gly Lys Gly Leu Ile Asn Val Glu Ala Ala	260	265	270

Ala Gln

<210> 6
 <211> 269
 <212> PRT

<213> Bacillus lentus

<400> 6

Ala Gln Ser Val Pro Trp Gly Ile Ser Arg Val Gln Ala Pro Ala Ala
1 5 10 15
His Asn Arg Gly Leu Thr Gly Ser Gly Val Lys Val Ala Val Leu Asp
20 25 30
Thr Gly Ile Ser Thr His Pro Asp Leu Asn Ile Arg Gly Gly Ala Ser
35 40 45
Phe Val Pro Gly Glu Pro Ser Thr Gln Asp Gly Asn Gly His Gly Thr
50 55 60
His Val Ala Gly Thr Ile Ala Ala Leu Asn Asn Ser Ile Gly Val Leu
65 70 75 80
Gly Val Ala Pro Ser Ala Glu Leu Tyr Ala Val Lys Val Leu Gly Ala
85 90 95
Ser Gly Ser Gly Ser Val Ser Ser Ile Ala Gln Gly Leu Glu Trp Ala
100 105 110
Gly Asn Asn Gly Met His Val Ala Asn Leu Ser Leu Gly Ser Pro Ser
115 120 125
Pro Ser Ala Thr Leu Glu Gln Ala Val Asn Ser Ala Thr Ser Arg Gly
130 135 140
Val Leu Val Val Ala Ala Ser Gly Asn Ser Gly Ala Gly Ser Ile Ser
145 150 155 160
Tyr Pro Ala Arg Tyr Ala Asn Ala Met Ala Val Gly Ala Thr Asp Gln
165 170 175
Asn Asn Asn Arg Ala Ser Phe Ser Gln Tyr Gly Ala Gly Leu Asp Ile
180 185 190
Val Ala Pro Gly Val Asn Val Gln Ser Thr Tyr Pro Gly Ser Thr Tyr
195 200 205
Ala Ser Leu Asn Gly Thr Ser Met Ala Thr Pro His Val Ala Gly Ala
210 215 220
Ala Ala Leu Val Lys Gln Lys Asn Pro Ser Trp Ser Asn Val Gln Ile
225 230 235 240
Arg Asn His Leu Lys Asn Thr Ala Thr Ser Leu Gly Ser Thr Asn Leu
245 250 255
Tyr Gly Ser Gly Leu Val Asn Ala Glu Ala Ala Thr Arg
260 265

<210> 7

<211> 15

<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic

<400> 7
Ile Lys Asp Phe His Val Tyr Phe Arg Glu Ser Arg Asp Ala Gly
1 5 10 15

<210> 8
<211> 15
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic

<400> 8
Leu Glu Gln Ala Val Asn Ser Ala Thr Ser Arg Gly Val Leu Val
1 5 10 15

<210> 9
<211> 15
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic

<400> 9
Ala Gln Ser Val Pro Trp Gly Ile Ser Arg Val Gln Ala Pro Ala
1 5 10 15

<210> 10
<211> 15
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic

<400> 10
Val Pro Trp Gly Ile Ser Arg Val Gln Ala Pro Ala Ala His Asn
1 5 10 15

<210> 11
<211> 15
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic

<400> 11
Gly Ile Ser Arg Val Gln Ala Pro Ala Ala His Asn Arg Gly Leu
1 5 10 15

<210> 12
<211> 15
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic

<400> 12
Arg Val Gln Ala Pro Ala Ala His Asn Arg Gly Leu Thr Gly Ser
1 5 10 15

<210> 13
<211> 15
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic

<400> 13
Ala Pro Ala Ala His Asn Arg Gly Leu Thr Gly Ser Gly Val Lys
1 5 10 15

<210> 14
<211> 15
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic

<400> 14
Ala His Asn Arg Gly Leu Thr Gly Ser Gly Val Lys Val Ala Val
1 5 10 15

<210> 15
<211> 15
<212> PRT
<213> Artificial Sequence

<220>
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<400> 15
Arg Gly Leu Thr Gly Ser Gly Val Lys Val Ala Val Leu Asp Thr
1 5 10 15

<210> 16
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<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic

<400> 16
Thr Gly Ser Gly Val Lys Val Ala Val Leu Asp Thr Gly Ile Ser
1 5 10 15

<210> 17
<211> 15
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic

<400> 17
Gly Val Lys Val Ala Val Leu Asp Thr Gly Ile Ser Thr His Pro
1 5 10 15

<210> 18
<211> 15
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic

<400> 18
Val Ala Val Leu Asp Thr Gly Ile Ser Thr His Pro Asp Leu Asn
1 5 10 15

<210> 19
<211> 15
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic

<400> 19
Leu Asp Thr Gly Ile Ser Thr His Pro Asp Leu Asn Ile Arg Gly
1 5 10 15

<210> 20
<211> 15
<212> PRT
<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic

<400> 20

Gly Ile Ser Thr His Pro Asp Leu Asn Ile Arg Gly Gly Ala Ser
1 5 10 15

<210> 21

<211> 15

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic

<400> 21

Thr His Pro Asp Leu Asn Ile Arg Gly Gly Ala Ser Phe Val Pro
1 5 10 15

<210> 22

<211> 15

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic

<400> 22

Asp Leu Asn Ile Arg Gly Gly Ala Ser Phe Val Pro Gly Glu Pro
1 5 10 15

<210> 23

<211> 15

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic

<400> 23

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1 5 10 15

<210> 24

<211> 15

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic

<400> 24

Gly Ala Ser Phe Val Pro Gly Glu Pro Ser Thr Gln Asp Gly Asn
1 5 10 15

<220>

<400> 25

<210> 26

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<400> 26

<210> 27

<220>

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<210> 28

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<400> 28

<210> 29

<211> 15
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic

<400> 29
Gly His Gly Thr His Val Ala Gly Thr Ile Ala Ala Leu Asn Asn
1 5 10 15

<210> 30
<211> 15
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic

<400> 30
Thr His Val Ala Gly Thr Ile Ala Ala Leu Asn Asn Ser Ile Gly
1 5 10 15

<210> 31
<211> 15
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic

<400> 31
Ala Gly Thr Ile Ala Ala Leu Asn Asn Ser Ile Gly Val Leu Gly
1 5 10 15

<210> 32
<211> 15
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic

<400> 32
Ile Ala Ala Leu Asn Asn Ser Ile Gly Val Leu Gly Val Ala Pro
1 5 10 15

<210> 33
<211> 15
<212> PRT
<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic

<400> 33

Leu Asn Asn Ser Ile Gly Val Leu Gly Val Ala Pro Ser Ala Glu
1 5 10 15

<210> 34

<211> 15

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic

<400> 34

Ser Ile Gly Val Leu Gly Val Ala Pro Ser Ala Glu Leu Tyr Ala
1 5 10 15

<210> 35

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<220>

<223> Description of Artificial Sequence: Synthetic

<400> 35

Val Leu Gly Val Ala Pro Ser Ala Glu Leu Tyr Ala Val Lys Val
1 5 10 15

<210> 36

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<220>

<223> Description of Artificial Sequence: Synthetic

<400> 36

Val Ala Pro Ser Ala Glu Leu Tyr Ala Val Lys Val Leu Gly Ala
1 5 10 15

<210> 37

<211> 15

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic

<400> 37

Ser Ala Glu Leu Tyr Ala Val Lys Val Leu Gly Ala Ser Gly Ser
1 5 10 15

<210> 38
<211> 15
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<220>
<223> Description of Artificial Sequence: Synthetic

<400> 38
Leu Tyr Ala Val Lys Val Leu Gly Ala Ser Gly Ser Gly Ser Val
1 5 10 15

<210> 39
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<220>
<223> Description of Artificial Sequence: Synthetic

<400> 39
Val Lys Val Leu Gly Ala Ser Gly Ser Gly Ser Val Ser Ser Ile
1 5 10 15

<210> 40
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<213> Artificial Sequence

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<223> Description of Artificial Sequence: Synthetic

<400> 40
Leu Gly Ala Ser Gly Ser Gly Ser Val Ser Ser Ile Ala Gln Gly
1 5 10 15

<210> 41
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<220>
<223> Description of Artificial Sequence: Synthetic

<400> 41
Ser Gly Ser Gly Ser Val Ser Ser Ile Ala Gln Gly Leu Glu Trp
1 5 10 15

<210> 42
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<223> Description of Artificial Sequence: Synthetic

<400> 42

Gly Ser Val Ser Ser Ile Ala Gln Gly Leu Glu Trp Ala Gly Asn
1 5 10 15

<210> 43

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<223> Description of Artificial Sequence: Synthetic

<400> 43

Ser Ser Ile Ala Gln Gly Leu Glu Trp Ala Gly Asn Asn Gly Met
1 5 10 15

<210> 44

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<223> Description of Artificial Sequence: Synthetic

<400> 44

Ala Gln Gly Leu Glu Trp Ala Gly Asn Asn Gly Met His Val Ala
1 5 10 15

<210> 45

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<223> Description of Artificial Sequence: Synthetic

<400> 45

Leu Glu Trp Ala Gly Asn Asn Gly Met His Val Ala Asn Leu Ser
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<210> 46

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<223> Description of Artificial Sequence: Synthetic

<400> 46

Ala Gly Asn Asn Gly Met His Val Ala Asn Leu Ser Leu Gly Ser
1 5 10 15

<210> 47

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<223> Description of Artificial Sequence: Synthetic

<400> 47

Asn Gly Met His Val Ala Asn Leu Ser Leu Gly Ser Pro Ser Pro
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<210> 48

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<223> Description of Artificial Sequence: Synthetic

<400> 48

His Val Ala Asn Leu Ser Leu Gly Ser Pro Ser Pro Ser Ala Thr
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<210> 49

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<223> Description of Artificial Sequence: Synthetic

<400> 49

Asn Leu Ser Leu Gly Ser Pro Ser Pro Ser Ala Thr Leu Glu Gln
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<210> 50

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<220>

<223> Description of Artificial Sequence: Synthetic

<400> 50

Leu Gly Ser Pro Ser Pro Ser Ala Thr Leu Glu Gln Ala Val Asn
1 5 10 15

<210> 51
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<220>
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<400> 51
Pro Ser Pro Ser Ala Thr Leu Glu Gln Ala Val Asn Ser Ala Thr
1 5 10 15

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<220>
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<400> 52
Ser Ala Thr Leu Glu Gln Ala Val Asn Ser Ala Thr Ser Arg Gly
1 5 10 15

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<220>
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<400> 53
Leu Glu Gln Ala Val Asn Ser Ala Thr Ser Arg Gly Val Leu Val
1 5 10 15

<210> 54
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<220>
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<400> 54
Ala Val Asn Ser Ala Thr Ser Arg Gly Val Leu Val Val Ala Ala
1 5 10 15

<210> 55
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<220>
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<400> 55
Ser Ala Thr Ser Arg Gly Val Leu Val Val Ala Ala Ser Gly Asn
1 5 10 15

<210> 56
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<400> 56
Ser Arg Gly Val Leu Val Val Ala Ala Ser Gly Asn Ser Gly Ala
1 5 10 15

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<400> 57
Val Leu Val Val Ala Ala Ser Gly Asn Ser Gly Ala Gly Ser Ile
1 5 10 15

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<400> 58
Val Ala Ala Ser Gly Asn Ser Gly Ala Gly Ser Ile Ser Tyr Pro
1 5 10 15

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<223> Description of Artificial Sequence: Synthetic

<400> 59
Ser Gly Asn Ser Gly Ala Gly Ser Ile Ser Tyr Pro Ala Arg Tyr

1 5 10 15

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<220>
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<400> 60
Ser Gly Ala Gly Ser Ile Ser Tyr Pro Ala Arg Tyr Ala Asn Ala
1 5 10 15

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<220>
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<400> 61
Gly Ser Ile Ser Tyr Pro Ala Arg Tyr Ala Asn Ala Met Ala Val
1 5 10 15

<210> 62
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<400> 62
Ser Tyr Pro Ala Arg Tyr Ala Asn Ala Met Ala Val Gly Ala Thr
1 5 10 15

<210> 63
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<220>
<223> Description of Artificial Sequence: Synthetic

<400> 63
Ala Arg Tyr Ala Asn Ala Met Ala Val Gly Ala Thr Asp Gln Asn
1 5 10 15

<210> 64
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<212> PRT
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<220>

<223> Description of Artificial Sequence: Synthetic

<400> 64

Ala Asn Ala Met Ala Val Gly Ala Thr Asp Gln Asn Asn Asn Arg
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<210> 65

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<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic

<400> 65

Met Ala Val Gly Ala Thr Asp Gln Asn Asn Asn Arg Ala Ser Phe
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<210> 66

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<212> PRT

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<223> Description of Artificial Sequence: Synthetic

<400> 66

Gly Ala Thr Asp Gln Asn Asn Asn Arg Ala Ser Phe Ser Gln Tyr
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<210> 67

<211> 15

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic

<400> 67

Asp Gln Asn Asn Asn Arg Ala Ser Phe Ser Gln Tyr Gly Ala Gly
1 5 10 15

<210> 68

<211> 15

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic

<400> 68

Asn Asn Arg Ala Ser Phe Ser Gln Tyr Gly Ala Gly Leu Asp Ile
1 5 10 15

<210> 69

<211> 15

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic

<400> 69

Ala Ser Phe Ser Gln Tyr Gly Ala Gly Leu Asp Ile Val Ala Pro
1 5 10 15

<210> 70

<211> 15

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic

<400> 70

Ser Gln Tyr Gly Ala Gly Leu Asp Ile Val Ala Pro Gly Val Asn
1 5 10 15

<210> 71

<211> 15

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic

<400> 71

Gly Ala Gly Leu Asp Ile Val Ala Pro Gly Val Asn Val Gln Ser
1 5 10 15

<210> 72

<211> 15

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic

<400> 72

Leu Asp Ile Val Ala Pro Gly Val Asn Val Gln Ser Thr Tyr Pro
1 5 10 15

<210> 73
<211> 15
<212> PRT
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<220>
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<400> 73
Val Ala Pro Gly Val Asn Val Gln Ser Thr Tyr Pro Gly Ser Thr
1 5 10 15

<210> 74
<211> 15
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic

<400> 74
Gly Val Asn Val Gln Ser Thr Tyr Pro Gly Ser Thr Tyr Ala Ser
1 5 10 15

<210> 75
<211> 15
<212> PRT
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<220>
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<400> 75
Val Gln Ser Thr Tyr Pro Gly Ser Thr Tyr Ala Ser Leu Asn Gly
1 5 10 15

<210> 76
<211> 15
<212> PRT
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<220>
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<400> 76
Thr Tyr Pro Gly Ser Thr Tyr Ala Ser Leu Asn Gly Thr Ser Met
1 5 10 15

<210> 77
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<220>

<223> Description of Artificial Sequence: Synthetic

<400> 77

Gly Ser Thr Tyr Ala Ser Leu Asn Gly Thr Ser Met Ala Thr Pro
1 5 10 15

<210> 78

<211> 15

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic

<400> 78

Tyr Ala Ser Leu Asn Gly Thr Ser Met Ala Thr Pro His Val Ala
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<210> 79

<211> 15

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic

<400> 79

Leu Asn Gly Thr Ser Met Ala Thr Pro His Val Ala Gly Ala Ala
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<210> 80

<211> 15

<212> PRT

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<223> Description of Artificial Sequence: Synthetic

<400> 80

Thr Ser Met Ala Thr Pro His Val Ala Gly Ala Ala Ala Leu Val
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<210> 81

<211> 15

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic

<400> 81

Ala Thr Pro His Val Ala Gly Ala Ala Ala Leu Val Lys Gln Lys
1 5 10 15

<210> 82
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<223> Description of Artificial Sequence: Synthetic

<400> 82
Gly Val Ala Gly Ala Ala Ala Leu Val Lys Gln Lys Asn Pro Ser
1 5 10 15

<210> 83
<211> 15
<212> PRT
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<220>
<223> Description of Artificial Sequence: Synthetic

<400> 83
Gly Ala Ala Ala Leu Val Lys Gln Lys Asn Pro Ser Trp Ser Asn
1 5 10 15

<210> 84
<211> 15
<212> PRT
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<220>
<223> Description of Artificial Sequence: Synthetic

<400> 84
Ala Leu Val Lys Gln Lys Asn Pro Ser Trp Ser Asn Val Gln Ile
1 5 10 15

<210> 85
<211> 15
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<220>
<223> Description of Artificial Sequence: Synthetic

<400> 85
Lys Gln Lys Asn Pro Ser Trp Ser Val Asn Gln Ile Arg Asn His
1 5 10 15

<210> 86

<211> 15
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic

<400> 86
Asn Pro Ser Trp Ser Asn Val Gln Ile Arg Asn His Leu Lys Asn
1 5 10 15

<210> 87
<211> 15
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic

<400> 87
Trp Ser Asn Val Gln Ile Arg Asn His Leu Lys Asn Thr Ala Thr
1 5 10 15

<210> 88
<211> 15
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic

<400> 88
Val Gln Ile Arg Asn His Leu Lys Asn Thr Ala Thr Ser Leu Gly
1 5 10 15

<210> 89
<211> 15
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic

<400> 89
Arg Asn His Leu Lys Asn Thr Ala Thr Ser Leu Gly Ser Thr Asn
1 5 10 15

<210> 90
<211> 15
<212> PRT
<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic

<400> 90

Leu Lys Asn Thr Ala Thr Ser Leu Gly Ser Thr Asn Leu Tyr Gly
1 5 10 15

<210> 91

<211> 15

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic

<400> 91

Thr Ala Thr Ser Leu Gly Ser Thr Asn Leu Tyr Gly Ser Gly Leu
1 5 10 15

<210> 92

<211> 15

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic

<400> 92

Ser Leu Gly Ser Thr Asn Leu Tyr Gly Ser Gly Leu Val Asn Ala
1 5 10 15

<210> 93

<211> 15

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic

<400> 93

Ser Thr Asn Leu Tyr Gly Ser Gly Leu Val Asn Ala Glu Ala Ala
1 5 10 15

<210> 94

<211> 15

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic

<400> 94

Asn Leu Tyr Gly Ser Gly Leu Val Asn Ala Glu Ala Ala Thr Arg
1 5 10 15

<210> 95
<211> 15
<212> PRT
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<220>
<223> Description of Artificial Sequence: Synthetic

<400> 95
Asp Ala Glu Leu His Ile Phe Arg Val Phe Thr Asn Asn Gln Val
1 5 10 15

<210> 96
<211> 15
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic

<400> 96
Pro Leu Arg Arg Ala Ser Leu Ser Leu Gly Ser Gly Phe Trp His
1 5 10 15

<210> 97
<211> 15
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic

<400> 97
Arg Ala Ser Leu Ser Leu Gly Ser Gly Phe Trp His Ala Thr Gly
1 5 10 15

<210> 98
<211> 15
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic

<400> 98
Leu Ser Leu Gly Ser Gly Phe Trp His Ala Thr Gly Arg His Ser
1 5 10 15

<210> 99
<211> 15
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<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic

<400> 99

Gly Ser Gly Phe Trp His Ala Thr Gly Arg His Ser Ser Arg Arg
1 5 10 15

<210> 100

<211> 15

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic

<400> 100

Phe Trp His Ala Thr Gly Arg His Ser Ser Arg Arg Leu Leu Arg
1 5 10 15

<210> 101

<211> 15

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic

<400> 101

Ala Thr Gly Arg His Ser Ser Arg Arg Leu Leu Arg Ala Ile Pro
1 5 10 15

<210> 102

<211> 15

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic

<400> 102

Arg His Ser Ser Arg Arg Leu Leu Arg Ala Ile Pro Arg Gln Val
1 5 10 15

<210> 103

<211> 15

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic

<400> 103
Ser Arg Arg Leu Leu Arg Ala Ile Pro Arg Gln Val Ala Gln Thr
1 5 10 15

<210> 104
<211> 15
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic

<400> 104
Leu Leu Arg Ala Ile Pro Arg Gln Val Ala Gln Thr Leu Gln Ala
1 5 10 15

<210> 105
<211> 15
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic

<400> 105
Ala Ile Pro Arg Gln Val Ala Gln Thr Leu Gln Ala Asp Val Leu
1 5 10 15

<210> 106
<211> 15
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic

<400> 106
Arg Gln Val Ala Gln Thr Leu Gln Ala Asp Val Leu Trp Gln Met
1 5 10 15

<210> 107
<211> 15
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic

<400> 107
Ala Gln Thr Leu Gln Ala Asp Val Leu Trp Gln Met Gly Tyr Thr
1 5 10 15

<210> 108
<211> 15
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic

<400> 108
Leu Gln Ala Asp Val Leu Trp Gln Met Gly Tyr Thr Gly Ala Asn
1 5 10 15

<210> 109
<211> 15
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic

<400> 109
Asp Val Leu Trp Gln Met Gly Tyr Thr Gly Ala Asn Val Arg Val
1 5 10 15

<210> 110
<211> 15
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic

<400> 110
Trp Gln Met Gly Tyr Thr Gly Ala Asn Val Arg Val Ala Val Phe
1 5 10 15

<210> 111
<211> 15
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic

<400> 111
Gly Tyr Thr Gly Ala Asn Val Arg Val Ala Val Phe Asp Thr Gly
1 5 10 15

<210> 112
<211> 15
<212> PRT
<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic

<400> 112

Gly Ala Asn Val Arg Val Ala Val Phe Asp Thr Gly Leu Ser Glu
1 5 10 15

<210> 113

<211> 15

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic

<400> 113

Val Arg Val Ala Val Phe Asp Thr Gly Leu Ser Glu Lys His Pro
1 5 10 15

<210> 114

<211> 15

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic

<400> 114

Ala Val Phe Asp Thr Gly Leu Ser Glu Lys His Pro His Phe Lys
1 5 10 15

<210> 115

<211> 15

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic

<400> 115

Asp Thr Gly Leu Ser Glu Lys His Pro His Phe Lys Asn Val Lys
1 5 10 15

<210> 116

<211> 15

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic

<400> 116

Leu Ser Glu Lys His Pro His Phe Lys Asn Val Lys Glu Arg Thr

1 5 10 15

<210> 117
<211> 15
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic

<400> 117
Lys His Pro His Phe Lys Asn Val Lys Glu Arg Thr Asn Trp Thr
1 5 10 15

<210> 118
<211> 15
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic

<400> 118
His Phe Lys Asn Val Lys Glu Arg Thr Asn Trp Thr Asn Glu Arg
1 5 10 15

<210> 119
<211> 15
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic

<400> 119
Asn Val Lys Glu Arg Thr Asn Trp Thr Asn Glu Arg Thr Leu Asp
1 5 10 15

<210> 120
<211> 15
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic

<400> 120
Glu Arg Thr Asn Trp Thr Asn Glu Arg Thr Leu Asp Asp Gly Leu
1 5 10 15

<210> 121
<211> 15

<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic

<400> 121
Asn Trp Thr Asn Glu Arg Thr Leu Asp Asp Gly Leu Gly His Gly
1 5 10 15

<210> 122
<211> 15
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic

<400> 122
Asn Glu Arg Thr Leu Asp Asp Gly Leu Gly His Gly Thr Phe Val
1 5 10 15

<210> 123
<211> 15
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic

<400> 123
Thr Leu Asp Asp Gly Leu Gly His Gly Thr Phe Val Ala Gly Val
1 5 10 15

<210> 124
<211> 15
<212> PPT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic

<400> 124
Asp Gly Leu Gly His Gly Thr Phe Val Ala Gly Val Ile Ala Ser
1 5 10 15

<210> 125
<211> 15
<212> PPT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic

<400> 125

Gly His Gly Thr Phe Val Ala Gly Val Ile Ala Ser Met Arg Glu
1 5 10 15

<210> 126

<211> 15

<212> PRT

<213> Artificial Sequence

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<223> Description of Artificial Sequence: Synthetic

<400> 126

Thr Phe Val Ala Gly Val Ile Ala Ser Met Arg Glu Cys Gln Gly
1 5 10 15

<210> 127

<211> 15

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic

<400> 127

Ala Gly Val Ile Ala Ser Met Arg Glu Cys Gln Gly Phe Ala Pro
1 5 10 15

<210> 128

<211> 15

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic

<400> 128

Ile Ala Ser Met Arg Glu Cys Gln Gly Phe Ala Pro Asp Ala Glu
1 5 10 15

<210> 129

<211> 15

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic

<400> 129

Met Arg Glu Cys Gln Gly Phe Ala Pro Asp Ala Glu Leu His Ile
1 5 10 15

<210> 130
<211> 15
<212> PRT
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<220>
<223> Description of Artificial Sequence: Synthetic

<400> 130
Cys Gln Gly Phe Ala Pro Asp Ala Glu Leu His Ile Phe Arg Val
1 5 10 15

<210> 131
<211> 15
<212> PRT
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<220>
<223> Description of Artificial Sequence: Synthetic

<400> 131
Phe Ala Pro Asp Ala Glu Leu His Ile Phe Arg Val Phe Thr Asn
1 5 10 15

<210> 132
<211> 15
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic

<400> 132
Asp Ala Glu Leu His Ile Phe Arg Val Phe Thr Asn Asn Gln Val
1 5 10 15

<210> 133
<211> 15
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic

<400> 133
Leu His Ile Phe Arg Val Phe Thr Asn Asn Gln Val Ser Tyr Thr
1 5 10 15

<210> 134
<211> 15
<212> PRT
<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic

<400> 134

Phe	Arg	Val	Phe	Thr	Asn	Asn	Gln	Val	Ser	Tyr	Thr	Ser	Trp	Phe
1				5					10					15

<210> 135

<211> 15

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic

<400> 135

Phe	Thr	Asn	Asn	Gln	Val	Ser	Tyr	Thr	Ser	Trp	Phe	Leu	Asp	Ala
1				5					10					15

<210> 136

<211> 15

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic

<400> 136

Asn	Gln	Val	Ser	Tyr	Thr	Ser	Trp	Phe	Leu	Asp	Ala	Phe	Asn	Tyr
1				5					10					15

<210> 137

<211> 15

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic

<400> 137

Ser	Tyr	Thr	Ser	Trp	Phe	Leu	Asp	Ala	Phe	Asn	Tyr	Ala	Ile	Leu
1				5					10					15

<210> 138

<211> 15

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic

<400> 138

Ser	Trp	Phe	Leu	Asp	Ala	Phe	Asn	Tyr	Ala	Ile	Leu	Lys	Lys	Ile
1				5					10					15

<210> 139
 <211> 15
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence: Synthetic

Leu	Asp	Ala	Phe	Asn	Tyr	Ala	Ile	Leu	Lys	Lys	Ile	Asp	Val	Leu
1				5					10					15

<210> 140
 <211> 15
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence: Synthetic

Phe	Asn	Tyr	Ala	Ile	Leu	Lys	Lys	Ile	Asp	Val	Leu	Asn	Leu	Ser
1				5					10					15

<210> 141
 <211> 15
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence: Synthetic

Ala	Ile	Leu	Lys	Lys	Ile	Asp	Val	Leu	Asn	Leu	Ser	Ile	Gly	Gly
1				5					10					15

<210> 142
 <211> 15
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence: Synthetic

Lys	Lys	Ile	Asp	Val	Leu	Asn	Leu	Ser	Ile	Gly	Gly	Pro	Asp	Phe
1				5					10					15

<210> 143

<211> 15
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic

<400> 143
Asp Val Leu Asn Leu Ser Ile Gly Gly Pro Asp Phe Met Asp His
1 5 10 15

<210> 144
<211> 15
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic

<400> 144
Asn Leu Ser Ile Gly Gly Pro Asp Phe Met Asp His Pro Phe Val
1 5 10 15

<210> 145
<211> 15
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic

<400> 145
Ile Gly Gly Pro Asp Phe Met Asp His Pro Phe Val Asp Lys Val
1 5 10 15

<210> 146
<211> 15
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic

<400> 146
Pro Asp Phe Met Asp His Pro Phe Val Asp Lys Val Trp Glu Leu
1 5 10 15

<210> 147
<211> 15
<212> PRT
<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic

<400> 147

Met Asp His Pro Phe Val Asp Lys Val Trp Glu Leu Thr Ala Asn
1 5 10 15

<210> 148

<211> 15

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic

<400> 148

Pro Phe Val Asp Lys Val Trp Glu Leu Thr Ala Asn Asn Val Ile
1 5 10 15

<210> 149

<211> 15

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic

<400> 149

Asp Lys Val Trp Glu Leu Thr Ala Asn Asn Val Ile Met Val Ser
1 5 10 15

<210> 150

<211> 15

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic

<400> 150

Trp Glu Leu Thr Ala Asn Asn Val Ile Met Val Ser Ala Ile Gly
1 5 10 15

<210> 151

<211> 15

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic

<400> 151

Thr Ala Asn Asn Val Ile Met Val Ser Ala Ile Gly Asn Asp Gly
1 5 10 15

<210> 152
<211> 15
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic

<400> 152
Asn Val Ile Met Val Ser Ala Ile Gly Asn Asp Gly Pro Leu Tyr
1 5 10 15

<210> 153
<211> 15
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic

<400> 153
Met Val Ser Ala Ile Gly Asn Asp Gly Pro Leu Tyr Gly Thr Ile
1 5 10 15

<210> 154
<211> 15
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic

<400> 154
Ala Ile Gly Asn Asp Gly Pro Leu Tyr Gly Thr Leu Asn Asn Pro
1 5 10 15

<210> 155
<211> 15
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic

<400> 155
Asn Asp Gly Pro Leu Tyr Gly Thr Leu Asn Asn Pro Ala Asp Gln
1 5 10 15

<210> 156
<211> 15
<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic

<400> 156

Pro Leu Tyr Gly Thr Leu Asn Asn Pro Ala Asp Gln Met Asp Val
1 5 10 15

<210> 157

<211> 15

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic

<400> 157

Gly Thr Leu Asn Asn Pro Ala Asp Gln Met Asp Val Ile Gly Val
1 5 10 15

<210> 158

<211> 15

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic

<400> 158

Asn Asn Pro Ala Asp Gln Met Asp Val Ile Gly Val Gly Gly Ile
1 5 10 15

<210> 159

<211> 15

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic

<400> 159

Ala Asp Gln Met Asp Val Ile Gly Val Gly Gly Ile Asp Phe Glu
1 5 10 15

<210> 160

<211> 15

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic

<400> 160
Met Asp Val Ile Gly Val Gly Gly Ile Asp Phe Glu Asp Asn Ile
1 5 10 15

<210> 161
<211> 15
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic

<400> 161
Ile Gly Val Gly Gly Ile Asp Phe Glu Asp Asn Ile Ala Arg Phe
1 5 10 15

<210> 162
<211> 15
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic

<400> 162
Gly Gly Ile Asp Phe Glu Asp Asn Ile Ala Arg Phe Ser Ser Arg
1 5 10 15

<210> 163
<211> 15
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic

<400> 163
Asp Phe Glu Asp Asn Ile Ala Arg Phe Ser Ser Arg Gly Met Thr
1 5 10 15

<210> 164
<211> 15
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic

<400> 164
Asp Asn Ile Ala Arg Phe Ser Ser Arg Gly Met Thr Thr Trp Glu
1 5 10 15

<210> 165
<211> 15
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic

<400> 165
Ala Arg Phe Ser Ser Arg Gly Met Thr Thr Trp Glu Leu Pro Gly
1 5 10 15

<210> 166
<211> 15
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic

<400> 166
Ser Ser Arg Gly Met Thr Thr Trp Glu Leu Pro Gly Gly Tyr Gly
1 5 10 15

<210> 167
<211> 15
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic

<400> 167
Gly Met Thr Thr Trp Glu Leu Pro Gly Gly Tyr Gly Arg Met Lys
1 5 10 15

<210> 168
<211> 15
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic

<400> 168
Thr Trp Glu Leu Pro Gly Gly Tyr Gly Arg Met Lys Pro Asp Ile
1 5 10 15

<210> 169
<211> 15
<212> PRT
<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic

<400> 169

Leu Pro Gly Gly Tyr Gly Arg Met Lys Pro Asp Ile Val Thr Tyr
1 5 10 15

<210> 170

<211> 15

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic

<400> 170

Gly Tyr Gly Arg Met Lys Pro Asp Ile Val Thr Tyr Gly Ala Gly
1 5 10 15

<210> 171

<211> 15

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic

<400> 171

Arg Met Lys Pro Asp Ile Val Thr Tyr Gly Ala Gly Val Arg Gly
1 5 10 15

<210> 172

<211> 15

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic

<400> 172

Pro Asp Ile Val Thr Tyr Gly Ala Gly Val Arg Gly Ser Gly Val
1 5 10 15

<210> 173

<211> 15

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic

<400> 173

Val Thr Tyr Gly Ala Gly Val Arg Gly Ser Gly Val Lys Gly Gly

1	5	10	15
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<210> 174
 <211> 15
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence: Synthetic

<400> 174
 Gly Ala Gly Val Arg Gly Ser Gly Val Lys Gly Gly Cys Arg Ala
 1 5 10 15

<210> 175
 <211> 15
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence: Synthetic

<400> 175
 Val Arg Gly Ser Gly Val Lys Gly Gly Cys Arg Ala Leu Ser Gly
 1 5 10 15

<210> 176
 <211> 15
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence: Synthetic

<400> 176
 Ser Gly Val Lys Gly Gly Cys Arg Ala Leu Ser Gly Thr Ser Val
 1 5 10 15

<210> 177
 <211> 15
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence: Synthetic

<400> 177
 Lys Gly Gly Cys Arg Ala Leu Ser Gly Thr Ser Val Ala Ser Pro
 1 5 10 15

<210> 178
 <211> 15

<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic

<400> 178
Cys Arg Ala Leu Ser Gly Thr Ser Val Ala Ser Pro Val Val Ala
1 5 10 15

<210> 179
<211> 15
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic

<400> 179
Leu Ser Gly Thr Ser Val Ala Ser Pro Val Val Ala Gly Ala Val
1 5 10 15

<210> 180
<211> 15
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic

<400> 180
Thr Ser Val Ala Ser Pro Val Val Ala Gly Ala Val Thr Leu Leu
1 5 10 15

<210> 181
<211> 15
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic

<400> 181
Ala Ser Pro Val Val Ala Gly Ala Val Thr Leu Leu Val Ser Thr
1 5 10 15

<210> 182
<211> 15
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic

<400> 182
Val Val Ala Gly Ala Val Thr Leu Leu Val Ser Thr Val Gln Lys
1 5 10 15

<210> 183
<211> 15
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic

<400> 183
Gly Ala Val Thr Leu Leu Val Ser Thr Val Gln Lys Arg Glu Leu
1 5 10 15

<210> 184
<211> 15
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic

<400> 184
Thr Leu Leu Val Ser Thr Val Gln Lys Arg Glu Leu Val Asn Pro
1 5 10 15

<210> 185
<211> 15
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic

<400> 185
Val Ser Thr Val Gln Lys Arg Glu Leu Val Asn Pro Ala Ser Met
1 5 10 15

<210> 186
<211> 15
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic

<400> 186
Val Gln Lys Arg Glu Leu Val Asn Pro Ala Ser Met Lys Gln Ala
1 5 10 15

<210> 187
<211> 15
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic

<400> 187
Arg Glu Leu Val Asn Pro Ala Ser Met Lys Gln Ala Leu Ile Ala
1 5 10 15

<210> 188
<211> 15
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic

<400> 188
Val Asn Pro Ala Ser Met Lys Gln Ala Leu Ile Ala Ser Ala Arg
1 5 10 15

<210> 189
<211> 15
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic

<400> 189
Ala Ser Met Lys Gln Ala Leu Ile Ala Ser Ala Arg Arg Leu Pro
1 5 10 15

<210> 190
<211> 15
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic

<400> 190
Lys Gln Ala Leu Ile Ala Ser Ala Arg Arg Leu Pro Gly Val Asn
1 5 10 15

<210> 191
<211> 15
<212> PRT
<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic

<400> 191

Leu Ile Ala Ser Ala Arg Arg Leu Pro Gly Val Asn Met Phe Glu
1 5 10 15

<210> 192

<211> 15

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic

<400> 192

Ser Ala Arg Arg Leu Pro Gly Val Asn Met Phe Glu Gln Gly His
1 5 10 15

<210> 193

<211> 15

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic

<400> 193

Arg Leu Pro Gly Val Asn Met Phe Glu Gln Gly His Gly Lys Leu
1 5 10 15

<210> 194

<211> 15

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic

<400> 194

Gly Val Asn Met Phe Glu Gln Gly His Gly Lys Leu Asp Leu Leu
1 5 10 15

<210> 195

<211> 15

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic

<400> 195

Met Phe Glu Gln Gly His Gly Lys Leu Asp Leu Leu Arg Ala Tyr
 1 5 10 15

<210> 196
 <211> 15
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence: Synthetic

<400> 196
 Gln Gly His Gly Lys Leu Asp Leu Leu Arg Ala Tyr Gln Ile Leu
 1 5 10 15

<210> 197
 <211> 15
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence: Synthetic

<400> 197
 Gly Lys Leu Asp Leu Leu Arg Ala Tyr Gln Ile Leu Asn Ser Tyr
 1 5 10 15

<210> 198
 <211> 15
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence: Synthetic

<400> 198
 Asp Leu Leu Arg Ala Tyr Gln Ile Leu Asn Ser Tyr Lys Pro Gln
 1 5 10 15

<210> 199
 <211> 15
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence: Synthetic

<400> 199
 Arg Ala Tyr Gln Ile Leu Asn Ser Tyr Lys Pro Gln Ala Ser Leu
 1 5 10 15

<210> 200

<211> 15
<212> PRT
<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic

<400> 200

Gln Ile Leu Asn Ser Tyr Lys Pro Gln Ala Ser Leu Ser Pro Ser
1 5 10 15

<210> 201

<211> 15

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic

<400> 201

Asn Ser Tyr Lys Pro Gln Ala Ser Leu Ser Pro Ser Tyr Ile Asp
1 5 10 15

<210> 202

<211> 15

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic

<400> 202

Lys Pro Gln Ala Ser Leu Ser Pro Ser Tyr Ile Asp Leu Thr Glu
1 5 10 15

<210> 203

<211> 15

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic

<400> 203

Ala Ser Leu Ser Pro Ser Tyr Ile Asp Leu Thr Glu Cys Pro Tyr
1 5 10 15

<210> 204

<211> 15

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic

<400> 204

Ser Pro Ser Tyr Ile Asp Leu Thr Glu Cys Pro Tyr Met Trp Pro
1 5 10 15

<210> 205

<211> 15

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic

<400> 205

Tyr Ile Asp Leu Thr Glu Cys Pro Tyr Met Trp Pro Tyr Cys Ser
1 5 10 15

<210> 206

<211> 15

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic

<400> 206

Leu Thr Glu Cys Pro Tyr Met Trp Pro Tyr Cys Ser Gln Pro Ile
1 5 10 15

<210> 207

<211> 15

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic

<400> 207

Cys Pro Tyr Met Trp Pro Tyr Cys Ser Gln Pro Ile Tyr Tyr Gly
1 5 10 15

<210> 208

<211> 1052

<212> PRT

<213> Homo sapiens

<400> 208

Met Lys Leu Val Asn Ile Trp Leu Leu Leu Val Val Leu Leu Cys
1 5 10 15

Gly Lys Lys His Leu Gly Asp Arg Leu Glu Lys Lys Ser Phe Glu Lys
20 25 30

Ala Pro Cys Pro Gly Cys Ser His Leu Thr Leu Lys Val Glu Phe Ser
 35 40 45
 Ser Thr Val Val Glu Tyr Glu Tyr Ile Val Ala Phe Asn Gly Tyr Phe
 50 55 60
 Thr Ala Lys Ala Arg Asn Ser Phe Ile Ser Ser Ala Leu Lys Ser Ser
 65 70 75 80
 Glu Val Asp Asn Trp Arg Ile Ile Pro Arg Asn Asn Pro Ser Ser Asp
 85 90 95
 Tyr Pro Ser Asp Phe Glu Val Ile Gln Ile Lys Glu Lys Gln Lys Ala
 100 105 110
 Gly Leu Leu Thr Leu Glu Asp His Pro Asn Ile Lys Arg Val Thr Pro
 115 120 125
 Gln Arg Lys Val Phe Arg Ser Leu Lys Tyr Ala Glu Ser Asp Pro Thr
 130 135 140
 Val Pro Cys Asn Glu Thr Arg Trp Ser Gln Lys Trp Gln Ser Ser Arg
 145 150 155 160
 Pro Leu Arg Arg Ala Ser Leu Ser Leu Gly Ser Gly Phe Trp His Ala
 165 170 175
 Thr Gly Arg His Ser Ser Arg Arg Leu Leu Arg Ala Ile Pro Arg Gln
 180 185 190
 Val Ala Gln Thr Leu Gln Ala Asp Val Leu Trp Gln Met Gly Tyr Thr
 195 200 205
 Gly Ala Asn Val Arg Val Ala Val Phe Asp Thr Gly Leu Ser Glu Lys
 210 215 220
 His Pro His Phe Lys Asn Val Lys Glu Arg Thr Asn Trp Thr Asn Glu
 225 230 235 240
 Arg Thr Leu Asp Asp Gly Leu Gly His Gly Thr Phe Val Ala Gly Val
 245 250 255
 Ile Ala Ser Met Arg Glu Cys Gln Gly Phe Ala Pro Asp Ala Glu Leu
 260 265 270
 His Ile Phe Arg Val Phe Thr Asn Asn Gln Val Ser Tyr Thr Ser Trp
 275 280 285
 Phe Leu Asp Ala Phe Asn Tyr Ala Ile Leu Lys Lys Ile Asp Val Leu
 290 295 300
 Asn Leu Ser Ile Gly Gly Pro Asp Phe Met Asp His Pro Phe Val Asp
 305 310 315 320
 Lys Val Trp Glu Leu Thr Ala Asn Asn Val Ile Met Val Ser Ala Ile
 325 330 335

Gly Asn Asp Gly Pro Leu Tyr Gly Thr Leu Asn Asn Pro Ala Asp Gln
 340 345 350
 Met Asp Val Ile Gly Val Gly Gly Ile Asp Phe Glu Asp Asn Ile Ala
 355 360 365
 Arg Phe Ser Ser Arg Gly Met Thr Thr Trp Glu Leu Pro Gly Gly Tyr
 370 375 380
 Gly Arg Met Lys Pro Asp Ile Val Thr Tyr Gly Ala Gly Val Arg Gly
 385 390 395 400
 Ser Gly Val Lys Gly Gly Cys Arg Ala Leu Ser Gly Thr Ser Val Ala
 405 410 415
 Ser Pro Val Val Ala Gly Ala Val Thr Leu Leu Val Ser Thr Val Gln
 420 425 430
 Lys Arg Glu Leu Val Asn Pro Ala Ser Met Lys Gln Ala Leu Ile Ala
 435 440 445
 Ser Ala Arg Arg Leu Pro Gly Val Asn Met Phe Glu Gln Gly His Gly
 450 455 460
 Lys Leu Asp Leu Leu Arg Ala Tyr Gln Ile Leu Asn Ser Tyr Lys Pro
 465 470 475 480
 Gln Ala Ser Leu Ser Pro Ser Tyr Ile Asp Leu Thr Glu Cys Pro Tyr
 485 490 495
 Met Trp Pro Tyr Cys Ser Gln Pro Ile Tyr Tyr Gly Gly Met Pro Thr
 500 505 510
 Val Val Asn Val Thr Ile Leu Asn Gly Met Gly Val Thr Gly Arg Ile
 515 520 525
 Val Asp Lys Pro Asp Trp Gln Pro Tyr Leu Pro Gln Asn Gly Asp Asn
 530 535 540
 Ile Glu Val Ala Phe Ser Tyr Ser Ser Val Leu Trp Pro Trp Ser Gly
 545 550 555 560
 Tyr Leu Ala Ile Ser Ile Ser Val Thr Lys Lys Ala Ala Ser Trp Glu
 565 570 575
 Gly Ile Ala Gln Gly His Val Met Ile Thr Val Ala Ser Pro Ala Glu
 580 585 590
 Thr Glu Ser Lys Asn Gly Ala Glu Gln Thr Ser Thr Val Lys Leu Pro
 595 600 605
 Ile Lys Val Lys Ile Ile Pro Thr Pro Pro Arg Ser Lys Arg Val Leu
 610 615 620
 Trp Asp Gln Tyr His Asn Leu Arg Tyr Pro Pro Gly Tyr Phe Pro Arg
 625 630 635 640

Asp Asn Leu Arg Met Lys Asn Asp Pro Leu Asp Trp Asn Gly Asp His
 645 650 655
 Ile His Thr Asn Phe Arg Asp Met Tyr Gln His Leu Arg Ser Met Gly
 660 665 670
 Tyr Phe Val Glu Val Leu Gly Ala Pro Phe Thr Cys Phe Asp Ala Ser
 675 680 685
 Gln Tyr Gly Thr Leu Leu Met Val Asp Ser Glu Glu Glu Tyr Phe Pro
 690 695 700
 Glu Glu Ile Ala Lys Leu Arg Arg Asp Val Asp Asn Gly Leu Ser Leu
 705 710 715 720
 Val Ile Phe Ser Asp Trp Tyr Asn Thr Ser Val Met Arg Lys Val Lys
 725 730 735
 Phe Tyr Asp Glu Asn Thr Arg Gln Trp Trp Met Pro Asp Thr Gly Gly
 740 745 750
 Ala Asn Ile Pro Ala Leu Asn Glu Leu Leu Ser Val Trp Asn Met Gly
 755 760 765
 Phe Ser Asp Gly Leu Tyr Glu Gly Glu Phe Thr Leu Ala Asn His Asp
 770 775 780
 Met Tyr Tyr Ala Ser Gly Cys Ser Ile Ala Lys Phe Pro Glu Asp Gly
 785 790 795 800
 Val Val Ile Thr Gln Thr Phe Lys Asp Gln Gly Leu Glu Val Leu Lys
 805 810 815
 Gln Glu Thr Ala Val Val Glu Asn Val Pro Ile Leu Gly Leu Tyr Gln
 820 825 830
 Ile Pro Ala Glu Gly Gly Gly Arg Ile Val Leu Tyr Gly Asp Ser Asn
 835 840 845
 Cys Leu Asp Asp Ser His Arg Gln Lys Asp Cys Phe Trp Leu Leu Asp
 850 855 860
 Ala Leu Leu Gln Tyr Thr Ser Tyr Gly Val Thr Pro Pro Ser Leu Ser
 865 870 875 880
 His Ser Gly Asn Arg Gln Arg Pro Pro Ser Gly Ala Gly Ser Val Thr
 885 890 895
 Pro Glu Arg Met Glu Gly Asn His Leu His Arg Tyr Ser Lys Val Leu
 900 905 910
 Glu Ala His Leu Gly Asp Pro Lys Pro Arg Pro Leu Pro Ala Cys Pro
 915 920 925
 Arg Leu Ser Trp Ala Lys Pro Gln Pro Leu Asn Glu Thr Ala Pro Ser
 930 935 940

Asn Leu Trp Lys His Gln Lys Leu Leu Ser Ile Asp Leu Asp Lys Val
945 950 955 960

Val Leu Pro Asn Phe Arg Ser Asn Arg Pro Gln Val Arg Pro Leu Ser
965 970 975

Pro Gly Glu Ser Gly Ala Trp Asp Ile Pro Gly Gly Ile Met Pro Gly
980 985 990

Arg Tyr Asn Gln Glu Val Gly Gln Thr Ile Pro Val Phe Ala Phe Leu
995 1000 1005

Gly Ala Met Val Val Leu Ala Phe Phe Val Val Gln Ile Asn Lys Ala
1010 1015 1020

Lys Ser Arg Pro Lys Arg Arg Lys Pro Arg Val Lys Arg Pro Gln Leu
1025 1030 1035 1040

Met Gln Gln Val His Pro Pro Lys Thr Pro Ser Val
1045 1050

<210> 209

<211> 280

<212> PRT

<213> Homo sapiens

<400> 209

Arg Ala Ile Pro Arg Gln Val Ala Gln Thr Leu Gln Ala Asp Val Leu
1 5 10 15

Trp Gln Met Gly Tyr Thr Gly Ala Asn Val Arg Val Ala Val Phe Asp
20 25 30

Thr Gly Leu Ser Glu Lys His Pro His Phe Lys Asn Val Lys Glu Arg
35 40 45

Thr Asn Trp Thr Asn Glu Arg Thr Leu Asp Asp Gly Leu Gly His Gly
50 55 60

Thr Phe Val Ala Gly Val Ile Ala Ser Met Arg Glu Cys Gln Gly Phe
65 70 75 80

Ala Pro Asp Ala Glu Leu His Ile Phe Arg Val Phe Thr Asn Asn Gln
85 90 95

Val Ser Tyr Thr Ser Trp Phe Leu Asp Ala Phe Asn Tyr Ala Ile Leu
100 105 110

Lys Lys Ile Asp Val Leu Asn Leu Ser Ile Gly Gly Pro Asp Phe Met
115 120 125

Asp His Pro Phe Val Asp Lys Val Trp Glu Leu Thr Ala Asn Asn Val
130 135 140

Ile Met Val Ser Ala Ile Gly Asn Asp Gly Pro Leu Tyr Gly Thr Leu

145	150	155	160
Asn Asn Pro Ala Asp Gln Met Asp Val Ile Gly Val Gly Gly Ile Asp	165	170	175
Phe Glu Asp Asn Ile Ala Arg Phe Ser Ser Arg Gly Met Thr Thr Trp	180	185	190
Glu Leu Pro Gly Gly Tyr Gly Arg Met Lys Pro Asp Ile Val Thr Tyr	195	200	205
Gly Ala Gly Val Arg Gly Ser Gly Val Lys Gly Gly Cys Arg Ala Leu	210	215	220
Ser Gly Thr Ser Val Ala Ser Pro Val Val Ala Gly Ala Val Thr Leu	225	230	235
Leu Val Ser Thr Val Gln Lys Arg Glu Leu Val Asn Pro Ala Ser Met	245	250	255
Lys Gln Ala Leu Ile Ala Ser Ala Arg Arg Leu Pro Gly Val Asn Met	260	265	270
Phe Glu Gln Gly His Gly Lys Leu	275	280	

<210> 210
 <211> 15
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence: Synthetic

<400> 210
 Gly Ser Ile Ser Tyr Pro Ala Arg Tyr Ala Asn Ala Met Ala Val
 1 5 10 15

<210> 211
 <211> 15
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence: Synthetic

<400> 211
 Ala Ser Ile Ser Tyr Pro Ala Arg Tyr Ala Asn Ala Met Ala Val
 1 5 10 15

<210> 212
 <211> 15
 <212> PRT
 <213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic

<400> 212

Gly Ala Ile Ser Tyr Pro Ala Arg Tyr Ala Asn Ala Met Ala Val
1 5 10 15

<210> 213

<211> 15

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic

<400> 213

Gly Ser Ala Ser Tyr Pro Ala Arg Tyr Ala Asn Ala Met Ala Val
1 5 10 15

<210> 214

<211> 15

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic

<400> 214

Gly Ser Ile Ala Tyr Pro Ala Arg Tyr Ala Asn Ala Met Ala Val
1 5 10 15

<210> 215

<211> 15

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic

<400> 215

Gly Ser Ile Ser Ala Pro Ala Arg Tyr Ala Asn Ala Met Ala Val
1 5 10 15

<210> 216

<211> 15

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic

<400> 216

Gly Ser Ile Ser Tyr Ala Ala Arg Tyr Ala Asn Ala Met Ala Val
1 5 10 15

<210> 217
<211> 15
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic

<400> 217
Gly Ser Ile Ser Tyr Pro Ala Ala Tyr Ala Asn Ala Met Ala Val
1 5 10 15

<210> 218
<211> 15
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic

<400> 218
Gly Ser Ile Ser Tyr Pro Ala Arg Ala Ala Asn Ala Met Ala Val
1 5 10 15

<210> 219
<211> 15
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic

<400> 219
Gly Ser Ile Ser Tyr Pro Ala Arg Tyr Ala Ala Ala Met Ala Val
1 5 10 15

<210> 220
<211> 15
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic

<400> 220
Gly Ser Ile Ser Tyr Pro Ala Arg Tyr Ala Asn Ala Ala Ala Val
1 5 10 15

<210> 221

<211> 15
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic

<400> 221
Gly Ser Ile Ser Tyr Pro Ala Arg Tyr Ala Asn Ala Met Ala Ala
1 5 10 15

<210> 222
<211> 15
<212> PRT
<213> Humicola insolens

<400> 222
Pro Gly Gly Val Ala Tyr Ser Cys Ala Asp Gln Thr Pro Trp Ala
1 5 10 15

<210> 223
<211> 15
<212> PRT
<213> Humicola insolens

<400> 223
Cys Gly Trp Ala Lys Lys Ala Pro Val Asn Gln Pro Val Phe Ser
1 5 10 15

<210> 224
<211> 276
<212> PRT
<213> Humicola insolens

<400> 224
Met Arg Ser Ser Pro Leu Leu Pro Ser Ala Val Val Ala Ala Leu Pro
1 5 10 15

Val Leu Ala Leu Ala Ala Asp Gly Arg Ser Thr Arg Tyr Trp Asp Cys
20 25 30

Cys Lys Pro Ser Cys Gly Trp Ala Lys Lys Ala Pro Val Asn Gln Pro
35 40 45

Val Phe Ser Cys Asn Ala Asn Phe Gln Arg Ile Thr Asp Phe Asp Ala
50 55 60

Lys Ser Gly Cys Glu Pro Gly Gly Val Ala Tyr Ser Cys Ala Asp Gln
65 70 75 80

Thr Pro Trp Ala Val Asn Asp Asp Phe Ala Leu Gly Phe Ala Ala Thr
85 90 95

Ser Ile Ala Gly Ser Asn Glu Ala Gly Trp Cys Cys Ala Cys Tyr Glu

100	105	110
Leu Thr Phe Thr Ser Gly Pro Val Ala Gly Lys Lys Met Val Val Gln		
115	120	125
Ser Thr Ser Thr Gly Gly Asp Leu Gly Ser Asn His Phe Asp Leu Asn		
130	135	140
Ile Pro Gly Gly Gly Val Gly Ile Phe Asp Gly Cys Thr Pro Gln Phe		
145	150	155 160
Gly Gly Leu Pro Gly Gln Arg Tyr Gly Gly Ile Ser Ser Arg Asn Glu		
165	170	175
Cys Asp Arg Phe Pro Asp Ala Leu Lys Pro Gly Cys Tyr Trp Arg Phe		
180	185	190
Asp Trp Phe Lys Asn Ala Asp Asn Pro Ser Phe Ser Phe Arg Gln Val		
195	200	205
Gln Cys Pro Ala Glu Leu Val Ala Arg Thr Gly Cys Arg Arg Asn Asp		
210	215	220
Asp Gly Asn Phe Pro Ala Val Gln Ile Pro Ser Ser Ser Thr Ser Ser		
225	230	235 240
Pro Val Asn Gln Pro Thr Ser Thr Ser Thr Thr Ser Thr Ser Thr Thr		
245	250	255
Ser Ser Pro Pro Val Gln Pro Thr Thr Pro Ser Gly Cys Thr Ala Glu		
260	265	270
Arg Trp Ala Gln		
275		

<210> 225

<211> 18

<212> PRT

<213> Thermomyces lanuginosus

<400> 225

Gly Asp Val Thr Gly Phe Leu Ala Leu Asp Asn Thr Asn Lys Leu Ile
1 5 10 15

Val Leu

<210> 226

<211> 15

<212> PRT

<213> Thermomyces lanuginosus

<400> 226

Ser Ile Glu Asn Trp Ile Gly Asn Leu Asn Phe Asp Leu Lys Glu
1 5 10 15

<210> 227

<211> 291

<212> PRT

<213> Thermomyces lanuginosus

<400> 227

Met Arg Ser Ser Leu Val Leu Phe Phe Val Ser Ala Trp Thr Ala Leu
1 5 10 15

Ala Ser Pro Ile Arg Arg Glu Val Ser Gln Asp Leu Phe Asn Gln Phe
20 25 30

Asn Leu Phe Ala Gln Tyr Ser Ala Ala Ala Tyr Cys Gly Lys Asn Asn
35 40 45

Asp Ala Pro Ala Gly Thr Asn Ile Thr Cys Thr Gly Asn Ala Cys Pro
50 55 60

Glu Val Glu Lys Ala Asp Ala Thr Phe Leu Tyr Ser Phe Glu Asp Ser
65 70 75 80

Gly Val Gly Asp Val Thr Gly Phe Leu Ala Leu Asp Asn Thr Asn Lys
85 90 95

Leu Ile Val Leu Ser Phe Arg Gly Ser Arg Ser Ile Glu Asn Trp Ile
100 105 110

Gly Asn Leu Asn Phe Asp Leu Lys Glu Ile Asn Asp Ile Cys Ser Gly
115 120 125

Cys Arg Gly His Asp Gly Phe Thr Ser Ser Trp Arg Ser Val Ala Asp
130 135 140

Thr Leu Arg Gln Lys Val Glu Asp Ala Val Arg Glu His Pro Asp Tyr
145 150 155 160

Arg Val Val Phe Thr Gly His Ser Leu Gly Gly Ala Leu Ala Thr Val
165 170 175

Ala Gly Ala Asp Leu Arg Gly Asn Gly Tyr Asp Ile Asp Val Phe Ser
180 185 190

Tyr Gly Ala Pro Arg Val Gly Asn Arg Ala Phe Ala Glu Phe Leu Thr
195 200 205

Val Gln Thr Gly Gly Thr Leu Tyr Arg Ile Thr His Thr Asn Asp Ile
210 215 220

Val Pro Arg Leu Pro Pro Arg Glu Phe Gly Tyr Ser His Ser Ser Pro
225 230 235 240

Glu Tyr Trp Ile Lys Ser Gly Thr Leu Val Pro Val Thr Arg Asn Asp
245 250 255

Ile Val Lys Ile Glu Gly Ile Asp Ala Thr Gly Gly Asn Asn Gln Pro

260

265

270

Asn Ile Pro Asp Ile Pro Ala His Leu Trp Tyr Phe Gly Leu Ile Gly
 275 280 285

Thr Cys Leu
 290

<210> 228

<211> 15

<212> PRT

<213> Streptomyces plicatus

<400> 228

Ile Lys Val Leu Leu Ser Val Leu Gly Asn His Gln Gly Ala Gly
 1 5 10 15

<210> 229

<211> 313

<212> PRT

<213> Streptomyces plicatus

<400> 229

Met Phe Thr Pro Val Arg Arg Arg Val Arg Thr Ala Ala Leu Ala Leu
 1 5 10 15

Ser Ala Ala Ala Ala Leu Val Leu Gly Ser Thr Ala Ala Ser Gly Ala
 20 25 30

Ser Ala Thr Pro Ser Pro Ala Pro Ala Pro Ala Pro Ala Pro Val Lys
 35 40 45

Gln Gly Pro Thr Ser Val Ala Tyr Val Glu Val Asn Asn Asn Ser Met
 50 55 60

Leu Asn Val Gly Lys Tyr Thr Leu Ala Asp Gly Gly Gly Asn Ala Phe
 65 70 75 80

Asp Val Ala Val Ile Phe Ala Ala Asn Ile Asn Tyr Asp Thr Gly Thr
 85 90 95

Lys Thr Ala Tyr Leu His Phe Asn Glu Asn Val Gln Arg Val Leu Asp
 100 105 110

Asn Ala Val Thr Gln Ile Arg Pro Leu Gln Gln Gln Gly Ile Lys Val
 115 120 125

Leu Leu Ser Val Leu Gly Asn His Gln Gly Ala Gly Phe Ala Asn Phe
 130 135 140

Pro Ser Gln Gln Ala Ala Ser Ala Phe Ala Lys Gln Leu Ser Asp Ala
 145 150 155 160

Val Ala Lys Tyr Gly Leu Asp Gly Val Asp Phe Asp Asp Glu Tyr Ala
 165 170 175

Glu Tyr Gly Asn Asn Gly Thr Ala Gln Pro Asn Asp Ser Ser Phe Val
 180 185 190

His Leu Val Thr Ala Leu Arg Ala Asn Met Pro Asp Lys Ile Ile Ser
 195 200 205

Leu Tyr Asn Ile Gly Pro Ala Ala Ser Arg Leu Ser Tyr Gly Gly Val
 210 215 220

Asp Val Ser Asp Lys Phe Asp Tyr Ala Trp Asn Pro Tyr Tyr Gly Thr
 225 230 235 240

Trp Gln Val Pro Gly Ile Ala Leu Pro Lys Ala Gln Leu Ser Pro Ala
 245 250 255

Ala Val Glu Ile Gly Arg Thr Ser Arg Ser Thr Val Ala Asp Leu Ala
 260 265 270

Arg Arg Thr Val Asp Glu Gly Tyr Gly Val Tyr Leu Thr Tyr Asn Leu
 275 280 285

Asp Gly Gly Asp Arg Thr Ala Asp Val Ser Ala Phe Thr Arg Glu Leu
 290 295 300

Tyr Gly Ser Glu Ala Val Arg Thr Pro
 305 310

<210> 230
 <211> 15
 <212> PRT
 <213> Bacillus amyloliquefaciens

<400> 230
 Gly Thr Val Ala Ala Leu Asn Asn Ser Ile Gly Val Leu Gly Val
 1 5 10 15

<210> 231
 <211> 15
 <212> PRT
 <213> Bacillus amyloliquefaciens

<400> 231
 Asn Gly Ile Glu Trp Ala Ile Ala Asn Asn Met Asp Val Ile Asn
 1 5 10 15

<210> 232
 <211> 15
 <212> PRT
 <213> Bacillus lentus

<400> 232
 Thr Gly Ser Gly Val Lys Val Ala Val Leu Asp Thr Gly Ile Ser
 1 5 10 15

<210> 233
<211> 15
<212> PRT
<213> Bacillus lentus

<400> 233
Ser Ala Glu Leu Tyr Ala Val Lys Val Leu Gly Ala Ser Gly Ser
1 5 10 15

<210> 234
<211> 17
<212> PRT
<213> Bacillus lentus

<400> 234
Gly Ser Ile Ser Tyr Pro Ala Arg Tyr Ala Asn Ala Met Ala Val Gly
1 5 10 15

Ala

<210> 235
<211> 15
<212> PRT
<213> Bacillus lentus

<400> 235
Gly Ala Gly Leu Asp Ile Val Ala Pro Gly Val Asn Val Gln Ser
1 5 10 15

<210> 236
<211> 272
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Hybrid of
Bacillus lentus and Bacillus amyloliquefaciens

<400> 236
Ala Gln Ser Val Pro Trp Gly Ile Ser Arg Val Gln Ala Pro Ala Ala
1 5 10 15

His Asn Arg Gly Leu Thr Gly Ser Gly Val Lys Val Ala Val Leu Asp
20 25 30

Thr Gly Ile Ser Thr His Pro Asp Leu Asn Ile Arg Gly Gly Ala Ser
35 40 45

Phe Val Pro Gly Glu Pro Ser Thr Gln Asp Gly Asn Gly His Gly Thr
50 55 60

His Val Ala Gly Thr Ile Ala Ala Leu Asn Asn Ser Ile Gly Val Leu
65 70 75 80

Gly Val Ala Pro Ser Ala Glu Leu Tyr Ala Val Lys Val Leu Gly Ala
85 90 95

Ser Gly Ser Gly Ser Val Ser Ser Ile Ala Gln Gly Leu Glu Trp Ala
100 105 110

Gly Asn Asn Gly Met His Val Ile Asn Met Ser Leu Gly Gly Ser Gly
115 120 125

Ser Ala Ala Leu Lys Ala Ala Val Asp Lys Ala Val Ala Ser Gly Val
130 135 140

Val Val Val Ala Ala Ala Gly Asn Glu Gly Thr Ser Gly Ser Ser Ser
145 150 155 160

Thr Val Gly Tyr Pro Gly Lys Tyr Pro Ser Val Ile Ala Val Gly Ala
165 170 175

Val Asp Ser Ser Asn Gln Arg Ala Ser Phe Ser Ser Val Gly Pro Glu
180 185 190

Leu Asp Val Met Ala Pro Gly Val Ser Ile Gln Ser Thr Leu Pro Gly
195 200 205

Asn Lys Tyr Gly Ala Tyr Asn Gly Thr Ser Met Ala Ser Pro His Val
210 215 220

Ala Gly Ala Ala Ala Leu Ile Leu Ser Lys His Pro Asn Trp Thr Asn
225 230 235 240

Thr Gln Val Arg Ser Ser Leu Glu Asn Thr Thr Thr Lys Leu Gly Asp
245 250 255

Ser Phe Tyr Tyr Gly Lys Gly Leu Ile Asn Val Gln Ala Ala Ala Gln
260 265 270

<210> 237

<211> 15

<212> PRT

<213> Bacillus lentis subtilisin

<400> 237

Ile Ala Ala Leu Asn Asn Ser Ile Gly Val Leu Gly Val Ala Pro
1 5 10 15

<210> 238

<211> 18

<212> PRT

<213> Bacillus lentis subtilisin

<400> 238

Leu Glu Trp Ala Gly Asn Asn Gly Met His Val Ala Asn Leu Ser Leu

1	5	10	15
Gly Ser			

<210> 239
 <211> 15
 <212> PRT
 <213> Bacillus amyloliquefaciens subtilisin

<400> 239			
Val	Ala	Ala	Leu
Asn	Asn	Ser	Ile
Gly	Val	Leu	Gly
Val	Ala	Pro	
1	5	10	15

<210> 240
 <211> 17
 <212> PRT
 <213> Bacillus amyloliquefaciens subtilisin

<400> 240			
Ile	Glu	Trp	Ala
Ile	Ala	Asn	Asn
Met	Asp	Val	Ile
Asn	Met	Ser	Leu
1	5	10	15
Gly			